

A NEW EQUISETUM

E. B. COPELAND

Equisetum fontinale Copel. sp. nov. *Equisetum*, *E. hiemali* remote affine, rhizomate nigrofusco, glabro, molle; caulibus annuis, caespitosis vel basi ima ramosis, alibi ramis omnino carentibus, usque ad 40 cm. altis et 3.5 mm. crassis et 15-striatis, plerisque ca. 25 cm. altis vix 2 mm. crassis et 7-9-striatis, tactu mollibus sub lente asperulis, rosulis minutis transversaliter ordinatis ornatis, carinis angustis vix angulatis et haud concavis, valleculis latis non profundis, lacuna axiale maxima, vaginis fere cylindraccis appressis concoloribus, carinis sursum sulcatis sulcis in baseos dentium desinientibus, dentibus lanceolatis vaginarum supremæ campanulatae et basalium persistentibus alibi caducis

albomarginatis, basibus persistentibus punctis nigris interdum sursumcurrentibus ornatis; stomatibus utroque latere valleculae quaeque uniseriatis, sub foramine irregulariter rotundo immersis, radiis ca. 12 prope aperturam rectis, remotius rarius furcatis; spica 1-1.3 mm. longa, pedicello denique 3 mm. longo sustensa, apice aut obtusa aut breviapiculata; sporis elaterebribus praeditis.

California: Butte County, on wet grassy hillside among springs sloping south toward Butte Creek, altitude 1510 m., June 24, 1930, *E. B. Copeland*. Exsiccatum: California Plants, ex Herb. Univ. Calif., no. 403. Type in Herb. Univ. Calif., no. 426895. (Pl. XXII.)

Fig. 1. *Equisetum fontinale* Copel. Spikes from type specimen showing rounded and pointed apices.

Grouping the species according to Milde, primarily according to the distribution, disposition and structure of the stomata, this falls unmistakably in his subgenus (or genus) *Hippochaete*; the only deviation from the typical stoma of this group is in the number of thickened lines on the outer wall of the guard cell,—about twelve in *E. fontinale*, sixteen or more, ac-

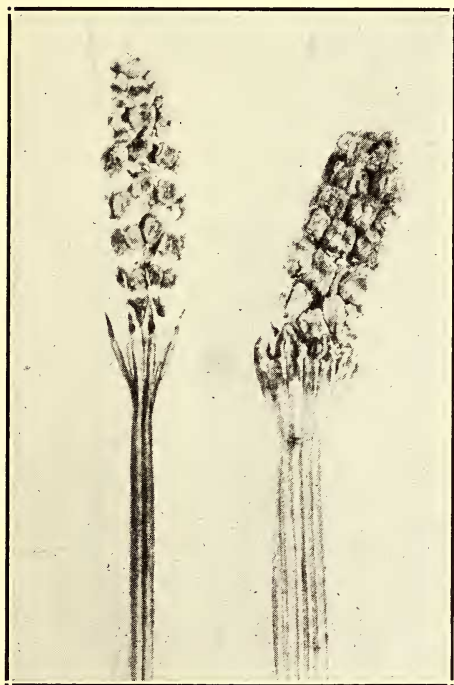




PLATE XXII. *EQUISETUM FONTINALE* COPEL. Photograph of type (University of California Herbarium, no. 426895).

cording to Milde, in all other species. If the emphasis be placed on the tip of the spike, as in various recent treatments of the genus, the place of *E. fontinale* is uncertain; wherefore it appears that this feature has been given undue importance. Whether immature or mature spikes be examined, some will be found with rounded and some with pointed apices. The accompanying photograph shows two spikes on one plant of the type (fig. 1).

Following Milde's classification, *E. fontinale* falls in his "Equiseta monosticha," with the stomata in single rows; within that group, in "*Equiseta hiemalia*," judging by the appressed sheaths. As to real affinity, however, it may not be nearer to *E. hiemale* than to *E. debile* or *E. variegatum*. *E. kansanum* Schaffner, as represented in our Herbarium, is a much larger and stouter plant, with relatively narrow grooves, and stout spikes with rounded apices.

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REVIEW

Green Laurels—The Lives and Achievements of the Great Naturalists. By DONALD CULROSS PEATTIE. Pp. xxiii + 368, with 32 figures, mostly full-page portraits; bibliography; index. Simon and Schuster, New York, 1936. \$3.75.

In this book a mind capable of enthusiasm and a skilled pen have disclosed, from a matrix of extensive and accurate knowledge, a series of brilliant personalities. The temptation to compare these biographies with the brilliant work of De Kruif is inescapable. The "microbe hunters" were drawn from a limited field of science and an intensely practical one; and the enthusiasm of the author who celebrates them is earthly, without a trace of poetry. Peattie draws from a wider field, and understands the abnegation of the directly applicable; he thrills to the trees and birds and insects which he sees in Illinois; he can see and make us see the forests of other times and places, and the weird landscapes of Lapland and the Galapagos. This seems the best possible way of introducing to folk in general the explorers of nature.

I cannot know whether the general public will find this work thrilling. It is the elementary student, suffering from the information that "Janssen (or was it Zanssen?) invented the compound microscope in 1590; Hooke discovered the cell in 1665; Malpighi and Grew founded plant anatomy in . . ." who will find the most exhilarating relief.

The professor, true to his training, will look for flaws and find them. Poetical enthusiasm arouses his distrust. In the introduction, a distinction is drawn between field men and laboratory men. This is a real distinction; but to restrict the terms